



IFWO

RAW SEQUENCE LISTING

DATE: 08/31/2004

PATENT APPLICATION: US/10/817,334

TIME: 15:03:51

Input Set : A:\-1310-1.app

Output Set: N:\CRF4\08312004\J817334.raw

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3 <110> APPLICANT: Hammock, Bruce D.
4     Kim, In-Hae
5     Morisseau, Christophe
6     Watanabe, Takaho
7     Newman, John W.
8     The Regents of the University of California
10 <120> TITLE OF INVENTION: Improved Inhibitors for the Soluble Epoxide Hydrolase
12 <130> FILE REFERENCE: 02307W-131010US
14 <140> CURRENT APPLICATION NUMBER: US 10/817,334
15 <141> CURRENT FILING DATE: 2004-04-02
17 <150> PRIOR APPLICATION NUMBER: US 60/460,559
18 <151> PRIOR FILING DATE: 2003-04-03
20 <160> NUMBER OF SEQ ID NOS: 4
22 <170> SOFTWARE: PatentIn Ver. 2.1
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 555
26 <212> TYPE: PRT
27 <213> ORGANISM: Homo sapiens
29 <220> FEATURE:
30 <223> OTHER INFORMATION: human soluble epoxide hydrolase (sEH)
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36 Pro Ala Val Phe Gly Val Leu Gly Arg Thr Glu Glu Ala Leu Ala Leu
37           20           25           30
39 Pro Arg Gly Leu Leu Asn Asp Ala Phe Gln Lys Gly Gly Pro Glu Gly
40   35           40           45
42 Ala Thr Thr Arg Leu Met Lys Gly Glu Ile Thr Leu Ser Gln Trp Ile
43   50           55           60
45 Pro Leu Met Glu Glu Asn Cys Arg Lys Cys Ser Glu Thr Ala Lys Val
46   65           70           75           80
48 Cys Leu Pro Lys Asn Phe Ser Ile Lys Glu Ile Phe Asp Lys Ala Ile
49           85           90           95
51 Ser Ala Arg Lys Ile Asn Arg Pro Met Leu Gln Ala Ala Leu Met Leu
52   100          105          110
54 Arg Lys Lys Gly Phe Thr Thr Ala Ile Leu Thr Asn Thr Trp Leu Asp
55   115          120          125
57 Asp Arg Ala Glu Arg Asp Gly Leu Ala Gln Leu Met Cys Glu Leu Lys
58   130          135          140
60 Met His Phe Asp Phe Leu Ile Glu Ser Cys Gln Val Gly Met Val Lys
61 145          150          155          160
63 Pro Glu Pro Gln Ile Tyr Lys Phe Leu Leu Asp Thr Leu Lys Ala Ser
64   165          170          175

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66 Pro Ser Glu Val Val Phe Leu Asp Asp Ile Gly Ala Asn Leu Lys Pro
67          180          185          190
69 Ala Arg Asp Leu Gly Met Val Thr Ile Leu Val Gln Asp Thr Asp Thr
70          195          200          205
72 Ala Leu Lys Glu Leu Glu Lys Val Thr Gly Ile Gln Leu Leu Asn Thr
73          210          215          220
75 Pro Ala Pro Leu Pro Thr Ser Cys Asn Pro Ser Asp Met Ser His Gly
76 225          230          235          240
78 Tyr Val Thr Val Lys Pro Arg Val Arg Leu His Phe Val Glu Leu Gly
79          245          250          255
81 Ser Gly Pro Ala Val Cys Leu Cys His Gly Phe Pro Glu Ser Trp Tyr
82          260          265          270
84 Ser Trp Arg Tyr Gln Ile Pro Ala Leu Ala Gln Ala Gly Tyr Arg Val
85          275          280          285
87 Leu Ala Met Asp Met Lys Gly Tyr Gly Glu Ser Ser Ala Pro Pro Glu
88          290          295          300
90 Ile Glu Glu Tyr Cys Met Glu Val Leu Cys Lys Glu Met Val Thr Phe
91 305          310          315          320
93 Leu Asp Lys Leu Gly Leu Ser Gln Ala Val Phe Ile Gly His Asp Trp
94          325          330          335
96 Gly Gly Met Leu Val Trp Tyr Met Ala Leu Phe Tyr Pro Glu Arg Val
97          340          345          350
99 Arg Ala Val Ala Ser Leu Asn Thr Pro Phe Ile Pro Ala Asn Pro Asn
100          355          360          365
102 Met Ser Pro Leu Glu Ser Ile Lys Ala Asn Pro Val Phe Asp Tyr Gln
103          370          375          380
105 Leu Tyr Phe Gln Glu Pro Gly Val Ala Glu Ala Glu Leu Glu Gln Asn
106 385          390          395          400
108 Leu Ser Arg Thr Phe Lys Ser Leu Phe Arg Ala Ser Asp Glu Ser Val
109          405          410          415
111 Leu Ser Met His Lys Val Cys Glu Ala Gly Gly Leu Phe Val Asn Ser
112          420          425          430
114 Pro Glu Glu Pro Ser Leu Ser Arg Met Val Thr Glu Glu Glu Ile Gln
115          435          440          445
117 Phe Tyr Val Gln Gln Phe Lys Lys Ser Gly Phe Arg Gly Pro Leu Asn
118          450          455          460
120 Trp Tyr Arg Asn Met Glu Arg Asn Trp Lys Trp Ala Cys Lys Ser Leu
121 465          470          475          480
123 Gly Arg Lys Ile Leu Ile Pro Ala Leu Met Val Thr Ala Glu Lys Asp
124          485          490          495
126 Phe Val Leu Val Pro Gln Met Ser Gln His Met Glu Asp Trp Ile Pro
127          500          505          510
129 His Leu Lys Arg Gly His Ile Glu Asp Cys Gly His Trp Thr Gln Met
130          515          520          525
132 Asp Lys Pro Thr Glu Val Asn Gln Ile Leu Ile Lys Trp Leu Asp Ser
133          530          535          540
135 Asp Ala Arg Asn Pro Pro Val Val Ser Lys Met
136 545          550          555
139 <210> SEQ ID NO: 2

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140 <211> LENGTH: 554
141 <212> TYPE: PRT
142 <213> ORGANISM: Rattus norvegicus
144 <220> FEATURE:
145 <223> OTHER INFORMATION: rat soluble epoxide hydrolase (sEH)
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151 Pro Ser Ile Ala Gly Val Leu Arg His Thr Glu Glu Ala Leu Ala Leu
152           20           25           30
154 Pro Arg Asp Phe Leu Leu Gly Ala Phe Gln Met Lys Phe Pro Glu Gly
155           35           40           45
157 Pro Thr Glu Gln Leu Met Lys Gly Lys Ile Thr Phe Ser Gln Trp Val
158           50           55           60
160 Pro Leu Met Asp Glu Ser Cys Arg Lys Ser Ser Lys Ala Cys Gly Ala
161   65           70           75           80
163 Ser Leu Pro Glu Asn Phe Ser Ile Ser Glu Ile Phe Ser Gln Ala Met
164           85           90           95
166 Ala Ala Arg Ser Ile Asn Arg Pro Met Leu Gln Ala Ala Ala Leu
167           100          105          110
169 Lys Lys Lys Gly Phe Thr Thr Cys Ile Val Thr Asn Asn Trp Leu Asp
170           115          120          125
172 Asp Ser Asp Lys Arg Asp Ile Leu Ala Gln Met Met Cys Glu Leu Ser
173           130          135          140
175 Gln His Phe Asp Phe Leu Ile Glu Ser Cys Gln Val Gly Met Ile Lys
176   145          150          155          160
178 Pro Glu Pro Gln Ile Tyr Lys Phe Val Leu Asp Thr Leu Lys Ala Lys
179           165          170          175
181 Pro Asn Glu Val Val Phe Leu Asp Asp Phe Gly Ser Asn Leu Lys Pro
182           180          185          190
184 Ala Arg Asp Met Gly Met Val Thr Ile Leu Val Arg Asp Thr Ala Ser
185           195          200          205
187 Ala Leu Arg Glu Leu Glu Lys Val Thr Gly Thr Gln Phe Pro Glu Ala
188           210          215          220
190 Pro Leu Pro Val Pro Cys Ser Pro Asn Asp Val Ser His Gly Tyr Val
191   225          230          235          240
193 Thr Val Lys Pro Gly Ile Arg Leu His Phe Val Glu Met Gly Ser Gly
194           245          250          255
196 Pro Ala Ile Cys Leu Cys His Gly Phe Pro Glu Ser Trp Phe Ser Trp
197           260          265          270
199 Arg Tyr Gln Ile Pro Ala Leu Ala Gln Ala Gly Phe Arg Val Leu Ala
200           275          280          285
202 Ile Asp Met Lys Gly Tyr Gly Asp Ser Ser Ser Pro Pro Glu Ile Glu
203           290          295          300
205 Glu Tyr Ala Met Glu Leu Leu Cys Glu Glu Met Val Thr Phe Leu Asn
206   305          310          315          320
208 Lys Leu Gly Ile Pro Gln Ala Val Phe Ile Gly His Asp Trp Ala Gly
209           325          330          335
211 Val Leu Val Trp Asn Met Ala Leu Phe His Pro Glu Arg Val Arg Ala

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212          340          345          350
214 Val Ala Ser Leu Asn Thr Pro Leu Met Pro Pro Asn Pro Glu Val Ser
215          355          360          365
217 Pro Met Glu Val Ile Arg Ser Ile Pro Val Phe Asn Tyr Gln Leu Tyr
218          370          375          380
220 Phe Gln Glu Pro Gly Val Ala Glu Ala Glu Leu Glu Lys Asn Met Ser
221 385          390          395          400
223 Arg Thr Phe Lys Ser Phe Phe Arg Thr Ser Asp Asp Met Gly Leu Leu
224          405          410          415
226 Thr Val Asn Lys Ala Thr Glu Met Gly Gly Ile Leu Val Gly Thr Pro
227          420          425          430
229 Glu Asp Pro Lys Val Ser Lys Ile Thr Thr Glu Glu Glu Ile Glu Tyr
230          435          440          445
232 Tyr Ile Gln Gln Phe Lys Lys Ser Gly Phe Arg Gly Pro Leu Asn Trp
233          450          455          460
235 Tyr Arg Asn Thr Glu Arg Asn Trp Lys Trp Ser Cys Lys Ala Leu Gly
236 465          470          475          480
238 Arg Lys Ile Leu Val Pro Ala Leu Met Val Thr Ala Glu Lys Asp Ile
239          485          490          495
241 Val Leu Arg Pro Glu Met Ser Lys Asn Met Glu Asn Trp Ile Pro Phe
242          500          505          510
244 Leu Lys Arg Gly His Ile Glu Asp Cys Gly His Trp Thr Gln Ile Glu
245          515          520          525
247 Lys Pro Ala Glu Val Asn Gln Ile Leu Ile Lys Trp Leu Lys Thr Glu
248          530          535          540
250 Ile Gln Asn Pro Ser Val Thr Ser Lys Ile
251 545          550
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255 <211> LENGTH: 554
256 <212> TYPE: PRT
257 <213> ORGANISM: Mus musculus
259 <220> FEATURE:
260 <223> OTHER INFORMATION: mouse liver soluble epoxide hydrolase (sEH)
262 <400> SEQUENCE: 3
263 Met Ala Leu Arg Val Ala Ala Phe Asp Leu Asp Gly Val Leu Ala Leu
264 1          5          10          15
266 Pro Ser Ile Ala Gly Ala Phe Arg Arg Ser Glu Glu Ala Leu Ala Leu
267          20          25          30
269 Pro Arg Asp Phe Leu Leu Gly Ala Tyr Gln Thr Glu Phe Pro Glu Gly
270          35          40          45
272 Pro Thr Glu Gln Leu Met Lys Gly Lys Ile Thr Phe Ser Gln Trp Val
273          50          55          60
275 Pro Leu Met Asp Glu Ser Tyr Arg Lys Ser Ser Lys Ala Cys Gly Ala
276 65          70          75          80
278 Asn Leu Pro Glu Asn Phe Ser Ile Ser Gln Ile Phe Ser Gln Ala Met
279          85          90          95
281 Ala Ala Arg Ser Ile Asn Arg Pro Met Leu Gln Ala Ala Ile Ala Leu
282          100          105          110
284 Lys Lys Lys Gly Phe Thr Thr Cys Ile Val Thr Asn Asn Trp Leu Asp

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285          115          120          125
287 Asp Gly Asp Lys Arg Asp Ser Leu Ala Gln Met Met Cys Glu Leu Ser
288          130          135          140
290 Gln His Phe Asp Phe Leu Ile Glu Ser Cys Gln Val Gly Met Ile Lys
291 145          150          155          160
293 Pro Glu Pro Gln Ile Tyr Asn Phe Leu Leu Asp Thr Leu Lys Ala Lys
294          165          170          175
296 Pro Asn Glu Val Val Phe Leu Asp Asp Phe Gly Ser Asn Leu Lys Pro
297          180          185          190
299 Ala Arg Asp Met Gly Met Val Thr Ile Leu Val His Asn Thr Ala Ser
300          195          200          205
302 Ala Leu Arg Glu Leu Glu Lys Val Thr Gly Thr Gln Phe Pro Glu Ala
303          210          215          220
305 Pro Leu Pro Val Pro Cys Asn Pro Asn Asp Val Ser His Gly Tyr Val
306 225          230          235          240
308 Thr Val Lys Pro Gly Ile Arg Leu His Phe Val Glu Met Gly Ser Gly
309          245          250          255
311 Pro Ala Leu Cys Leu Cys His Gly Phe Pro Glu Ser Trp Phe Ser Trp
312          260          265          270
314 Arg Tyr Gln Ile Pro Ala Leu Ala Gln Ala Gly Phe Arg Val Leu Ala
315          275          280          285
317 Ile Asp Met Lys Gly Tyr Gly Asp Ser Ser Ser Pro Pro Glu Ile Glu
318          290          295          300
320 Glu Tyr Ala Met Glu Leu Leu Cys Lys Glu Met Val Thr Phe Leu Asp
321 305          310          315          320
323 Lys Leu Gly Ile Pro Gln Ala Val Phe Ile Gly His Asp Trp Ala Gly
324          325          330          335
326 Val Met Val Trp Asn Met Ala Leu Phe Tyr Pro Glu Arg Val Arg Ala
327          340          345          350
329 Val Ala Ser Leu Asn Thr Pro Phe Met Pro Pro Asp Pro Asp Val Ser
330          355          360          365
332 Pro Met Lys Val Ile Arg Ser Ile Pro Val Phe Asn Tyr Gln Leu Tyr
333          370          375          380
335 Phe Gln Glu Pro Gly Val Ala Glu Ala Glu Leu Glu Lys Asn Met Ser
336 385          390          395          400
338 Arg Thr Phe Lys Ser Phe Phe Arg Ala Ser Asp Glu Thr Gly Phe Ile
339          405          410          415
341 Ala Val His Lys Ala Thr Glu Ile Gly Gly Ile Leu Val Asn Thr Pro
342          420          425          430
344 Glu Asp Pro Asn Leu Ser Lys Ile Thr Thr Glu Glu Glu Ile Glu Phe
345          435          440          445
347 Tyr Ile Gln Gln Phe Lys Lys Thr Gly Phe Arg Gly Pro Leu Asn Trp
348          450          455          460
350 Tyr Arg Asn Thr Glu Arg Asn Trp Lys Trp Ser Cys Lys Gly Leu Gly
351 465          470          475          480
353 Arg Lys Ile Leu Val Pro Ala Leu Met Val Thr Ala Glu Lys Asp Ile
354          485          490          495
356 Val Leu Arg Pro Glu Met Ser Lys Asn Met Glu Lys Trp Ile Pro Phe
357          500          505          510

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VERIFICATION SUMMARY

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